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SMES AND ECONOMIC GROWTH: ENTREPRENEURSHIP OR EMPLOYMENT

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ABSTRACT. *There has been increasing recognition of the importance of the SME sector in recent years; indeed, the contribution made by SMEs to overall economic development has become widely recognized in many of the newly industrialized economies. In an effort to go beyond some of the present empirical works, this study uses a dataset on both developed and developing economies to examine the contribution to economic growth from the SME sector. Based on data covering thirty-seven countries, over the period from the 1960s to the 1990s, our empirical results support the hypothesis that small businesses are beneficial to economic prosperity; however, this study highlights considerable diversity in terms of the patterns of the contribution, by the SME sector, to overall economic growth. In the pursuit of economic growth, SMEs in the high-income economies will generally exploit entrepreneurship, whilst in the less-developed economies they will tend to drive the job-creation function.*

Keywords: Small and Medium Enterprises; Economic Development; Entrepreneurship.

1. **Introduction.** In their recent pursuit of economic progress, the developing countries have generally come to recognize that the SME sector may well be the main driving force for growth, due to its providing entrepreneurial resources and employment opportunities. Nevertheless, the existing attempts to explore empirically the roles played by SME in the economic development of a nation are still somewhat ambiguous. This can be attributed, more or less, to the fact that when examining economic progress per se, economists have tended to ignore the industrial structure of the economy and the impact this can have on such development. The purpose of this paper is to empirically examine the interrelationship existing between the SME sector and economic growth, using two methods, a case study of Taiwan and an examination of cross-country data.

Taiwan has become widely regarded as a newly industrialized economy, within which the prevalence of SMEs has provided an enormous contribution to economic development. Table 1 reports the time trends in the prominence of SMEs (enterprise with less than 100 employees) in Taiwan, in terms of their share of the number of firms, employment and production value (a measure of output), and also provides information on the average annual growth rate in Taiwan. Within the sample period, whether the shares are measured in terms of employment or the number of firms, weakly negative correlations can be found between SME shares and economic growth rates (the corresponding correlation coefficients for 1961-2001 are, respectively, -0.39 and -0.58). However, we find that since 1971, an (insignificantly) positive serial correlation exists between the output shares of SMEs and the overall growth rate of the economy. Given the limited number of observations, no definitive conclusions on the relationship between economic growth and SMEs can be drawn from these statistics; however, there is sufficient evidence to suggest that Taiwan's elite SME sector is the 'jewel in the crown' of the island's economy ([1-2]).

On the other hand, the evidence coming out of the western hemisphere provides rather mixed results. The fact is that since the existing studies have failed to incorporate data

TABLE 1. Economic growth and SME shares in Taiwan, 1961-2006

Year	SMEs (1-99 persons) share (%)			Economic Growth Rate[a] (%)
	No. of Firms	Employment	Production Value	
1961	99.57	64.28	-	3.91
1966	99.28	57.30	-	7.78
1971	98.96	52.52	37.09	9.59
1976	98.90	53.00	32.27	5.09
1986	99.00	57.89	36.46	9.56
1991	99.24	63.82	41.23	8.21
1996	99.37	66.75	45.41	6.32
2001	99.38	62.29	36.82	3.50
2006	99.73[b]	69.22[b]	45.09[b]	5.24

Note: a. The economic growth rate is measured by the average annual change rate in per capita real GNP. Original data is provided by the Taiwan Industrial and Commercial Census, and Annual National income (various issues).

b. SME denotes enterprise with less than 200 employees.

collected from both the advanced economies and the less-developed economies, the relationship between SMEs and economic growth remains something of a myth within the literature. The primary aim of this paper is therefore to empirically examine the contribution of SMEs to economic progress, focusing on their roles between entrepreneurship and employment, using a dataset comprising of both the advanced and less-developed economies.

The paper is structured as follows. We begin by carrying out a literature review in the next section, followed by the setting up of an empirical model. The penultimate section reports the empirical results. We close by offering some concluding remarks and policy implications.

2. **Literature Review.** The issue of whether small businesses can be considered to be beneficial to economic growth must be examined from several different perspectives. As the theory of scale economies emphasizes, large-scale firms enjoy advantages derived from their economies of scale in production and also from having crossed the threshold of innovative activities, thereby predicting that the resultant increase in the share of large-scale firms will drive economic progress. According to this conventional wisdom – which originated back in the days of the industrial revolution – only large firms can meet the requirements of scale efficiency, thus outperforming small firms; it is therefore hypothesized that there is no room for SMEs in those economies pursuing growth, and their future role is expected to diminish ([3]).

From a totally different perspective, [4] highlighted the advantage of large corporations in raising capital, predicting that this would replace entrepreneurial functions in the process of economic progress; however, the important contribution made by entrepreneurship to economic progress cannot be neglected. [5] drew attention to the role of the entrepreneur – defining an entrepreneur as a person who innovates –separating this function from that of capitalism. [6] also reminded us that large firms may block the process of creative destruction; this is because large firms may rely on their market monopoly power to delay the outcomes of innovation. However, as compared to SMEs, large firms may lack the incentive to improve their level of productivity; thus, it may be expected that their contribution to economic growth would be limited. Scholars argued that small

entrepreneurial firms could enrich an economy's key competitive advantage through their diversified new ideas, and noted that both small firms and entrepreneurship are a necessary element in the achievement of long-run macroeconomic prosperity ([7-8]). A detailed survey of the literature is carried out by [9], targeting the important linkages between entrepreneurship and economic growth. [10] suggested a U-shaped relationship between level of development and the rate of entrepreneurship.

A global phenomena over the past two or three decades has been the way in which SMEs have been replacing large firms in leading economic activities ([11]), and there has been a recent trend towards conducting empirical works focusing on the issue of the relationship between SMEs and economic growth. Based on the evidence from thirteen European countries, [12] indicated that in 1990, the increase in the employment share of large firms had a negative effect on output growth.

Based on US manufacturing data from the early 1990s, [7] found a negative impact on productivity dynamics from the shares of small businesses, whether this was measured by the number of firms or by employment. They argued that a change in the distribution of firm size within an economy would create a corresponding shift in potential total productivity growth. In order to test the Schumpeterian hypothesis, using a sample of more than one hundred US cities, [13] found that in the 1980s, the smaller the average size of manufacturing and retailing firms, the higher the subsequent growth rates of median household income.

The above mentioned empirical studies have tended to draw mainly on the experiences of the industrialized countries; we therefore see a need to generalize our empirical study of these issues by also taking into account both the newly industrialized and the less-developed economies.

3. **Model and Hypotheses.** In this section, we use panel data on thirty-seven countries, covering the period from the 1960s to the 1990s, to empirically explore the influence on economic growth accounted for by SMEs. Here, a regression model is employed to examine this question, with the set up of the model being:

$$G = \beta_0 + \beta_1 SME + \beta_2 (SME)^2 + \beta_3 (Mature) + \varepsilon \quad (1)$$

A cross-country pooling dataset used for this research, covering the period from the 1960s to the 1990s, comes from various data sources, including the literature and various statistical yearbooks. The total number of observations available for this study was seventy-two, with the thirty-seven countries and regions within the database covering various types of economies, particularly with regard to the various stages of economic development.

We assume that each type of economy has its main source of economic growth, and set out to determine whether the SME sector assumes entrepreneurship or employment roles during the various stages of economic development. In order to highlight the different patterns of economic growth, two measures of the importance of SMEs are considered: share of number of enterprises, and the employment share. We further use a dummy variable, *Mature*, to denote the advanced countries in the sample. Here we use 1963 US per-capita GDP (US$3,181) as the cutoff point to separate the high income sample from the low income sample). Since there is more room for economic growth in the industrial sector

of the less-developed economies (both through growth in production inputs and technological advancement), we expect lower growth rates amongst the mature sample; therefore, we may expect the coefficient of *Mature* to be negative in our empirical model.

Our empirical analysis considers four models. Model I is the basic model, regressing the growth rate of the economy only on *SME* and SME^2. In Model II, in addition to *SME* and SME^2, the dummy variable *Mature* is also considered in order to examine whether there is any structural difference between these variables in the advanced economies and the less-developed economies. If our assumption is proven, we will then test the samples of the mature and less-advanced economies, in Models III and IV.

4. **Empirical Results.** Table 2 documents the main regression results. The main findings from Model I confirm our earlier assumption that an economy with a larger share of SMEs will generally enjoy a higher economic growth rate, irrespective of whether the share is measured in terms of the number of firms or employees. The empirical results echo the arguments of [3,12], and also indicate that as the share of the SME sector expands, there will be a decline in the marginal importance on economic growth from this sector.

TABLE 2. Regressing growth rate on share of SMEs

	I–(1)	I–(2)	II–(1)	II–(2)	III–(1)	III–(2)	IV–(1)	IV–(2)
Constant	-225.96198*** (76.60726)	-3.13944 (5.70675)	-183.62652*** (54.20590)	-4.42920 (5.90219)	-457.162253 (279.93731)	-10.24223 (10.59140)	-21.62870 (78.36614)	-4.01570 (7.22364)
SMEs (No.)	5.37462*** (1.76880)	--	4.35786*** (1.28933)	--	10.45595* (6.18993)	--	0.26756 (1.94798)	--
SMEs ^{2} (No.)	-0.03076*** (0.01011)	--	-0.02441*** (0.00751)	--	-0.05876* (0.03401)	--	0.00080 (0.01180)	--
SMEs (Employees)	--	0.52742* (0.27535)	--	0.69368** (0.27584)	--	0.70140 (0.47057)	--	0.66526* (0.37452)
SMEs ^{2} (Employees)	--	-0.00650** (0.00307)	--	-0.00767*** (0.00288)	--	-0.00779 (0.00476)	--	-0.00725 (0.00441)
Mature	--	--	-5.03554*** (1.54323)	-5.72213*** (1.56876)	--	--	--	--
Sample size	72	72	72	72	44	44	28	28
R^2	0.06973	0.03696	0.19038	0.19261	0.11746	0.04932	0.10731	0.05343
$\overline{R}^2$	0.04277	0.00904	0.15467	0.15699	0.07441	0.00294	0.03590	-0.02229

Notes: [a] *White*-statistics corrected standard errors in parentheses.
[b] ***, ** and * represent significance at the1 per cent, 5 per cent and 10 per cent levels, respectively.

All the empirical results comply with our hypotheses in Model II. The coefficient of *SME* on economic growth is still positively significant, whilst that of SME^2 is still negatively significant. The estimated coefficient of *Mature* is also negatively significant, which indicates not only that the main results of Model I remain intact, but that the difference between the various economies, in terms of their pattern of economic growth, cannot be ignored. Thus, we should further separate the sample into two parallel groups according to their level of economic development, that is, mature and rural economies.

We can then compare the two economy sample groups in order to determine the possible differences, in terms of the pattern of contribution to economic growth by SMEs, beginning with an examination of the advanced economy sample group. There is a significantly positive impact on the growth rate in Model III, but only when the importance of SMEs is measured by the number of entrepreneurs.

If we focus on the employment share of SMEs in these mature economies, no significant influences on economic growth are revealed, implying that in the high-income and mature economies, the contribution to economic growth from the SME sector comes mainly from the prevalence of innovative entrepreneurs. This result also concords with [10], who summarize a positive effect of entrepreneurial activity on economic growth for highly developed countries; a negative effect for developing nations.

When examining the low-income group, as shown in Model IV, only *SME* (measured by the employee share of SMEs) is significantly positive, whereas the square term in this equation is insignificant. However, *SME* (as measured by the proportion of SMEs to the total number of firms) and their square terms have no effect on economic growth within this equation. This reveals that in the less-developed world, unless the SME sector is capable of absorbing a significant share of total employment, there is no clear value from this sector in terms of improving economic status. We may speculate that in the less-developed economies, most small businesses are, by nature, 'cottage industries'; thus, in contrast to their counterparts in the advanced countries, small businesses in the less-developed economies help to drive economic growth mainly through improvements in factor employment, rather than any reliance on highly evolved entrepreneurship resources.

5. **Conclusions.** Taiwan has long been famous for its well-performing SME sector. There is also growing consensus in the western hemisphere towards the adoption of similar SME promotion policies. Although recent empirical studies based on data collected in the mature economies have, to some extent, shed some light on the interactive roles of small businesses and macroeconomic development, they have so far reached no general conclusions. Furthermore, little evidence has thus far been presented based on empirical data on the newly industrialized economies, such as Taiwan.

In order to enrich our understanding of SMEs, and to justify such active promotion policies, there is a need for an enhanced empirical study aimed at highlighting the differences between the advanced and the less-developed countries. This should also take into consideration, as part of the statistic sample, those economies that are noted for their elite SME sectors, such as Taiwan.

In this study, we have compiled data covering thirty-seven countries covering the period from the 1960s to 1990s. These samples include various types of countries and regions, with particularly regard to their stage of economic development. Employing a regression analysis, the empirical evidence shows the systematic relationship that exists between SMEs and economic growth, with the SME sector demonstrating some positive relevance to economic growth. We have further examined whether or not there are any distinctive features in the nature of the systemic relationship between the SME sector and economic growth in the developed and developing economies, and feel that our empirical study supports this assumption. Within the mature economies, it is the entrepreneurship inherited from the SME sector that helps to drive economic growth, whereas, in contrast, within the less-developed economies, the main contribution to economic growth from the SME sector is their value in terms of job creation.

Some important policy implications are derived from this study. First of all, in the overall pursuit of economic growth, the important role played by the SME sector cannot be ignored.

However, we find that there is no common ground upon which the design of such policies towards SMEs can be based, thus, there can be no common policy towards SMEs for each economy. Therefore, prior to engaging in any redesign or adjustment of existing SME policies, it would seem prudent for policymakers to clearly identify their own economy, with particular regard to its current stage of economic development.

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